REMARKS/ARGUMENTS

35 USC § 112, second paragraph

Claims 1-10 were rejected under 35 USC § 112, second paragraph, as failing to establish metes and bounds for use of the term "coupled". While the applicant respectfully disagrees, claim 1 was amended to specify the term as "operably coupled". The office further rejected claims 1-10 as being incomplete for failing to point out the structural interrelation between "the second energy source and second energy detector". Claim 1 was amended to provide such interrelationship.

35 USC § 103(a)

The Cited reference Fails to Teach All Claimed Elements

It should be pointed out that to establish prima facie obviousness of a claimed invention, ***all the claim limitations must be taught or suggested by the prior art***. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

(1) Claims 1-3 and 5-10 were rejected under 35 USC § 103 as being obvious over Kureshy (U.S. Pat. No. 5,141,871) in view of Sakka (U.S. Pat. No. 5,271902). The applicant respectfully disagrees, especially in view of the amendments herein.

Amended claim 1 expressly requires "...a robotic arm that is operably coupled to (1) a pipette tip receiving element wherein the robotic arm is configured to translate the pipette tip receiving element along at least two of an x-coordinate, a y-coordinate, and a z-coordinate, and (2) a manipulator that is configured to push a biochip from one location in the analytic device to another location, wherein the manipulator is configured to be movable in a linear and in a rotational motion..." Such elements are clearly not taught by any one of Kureshy and Sakka.

On the contrary, as the fluid recipient in Kureshy is on a rotating platform that is enclosed in a temperature controlled housing, there is clearly no motivation to modify Kureshy such as to arrive at a device as presently claimed as such modification would require an static and open platform.

Furthermore, it is pointed out that the examiner asserted Kureshy would teach a sensor (office action page 6, lines 10-14) by referring to column 10, lines 3-9. This passage refers to light beam 114 that is interrupted by the descending pipette tip in the '871 patent, which ties in with the preceding passage on column 9, line 44 et seq. discussing the option of a lost pipette tip. Therefore, the examiner deems detection system 108 as the sensor. However, detection system 108 is structurally coupled to the temperature controlled housing and not to the pipette tip receiving element as expressly required in the amended claim. Again, the presently claimed elements are not taught by any one of Kureshy and Sakka.

The office further asserted that the second energy detector would be present in the '871 patent by pointing to col. 5, lines 15-17. However, this passage discusses the optical detection system 108 which has previously been identified by the examiner as the sensor (see above). Thus, either the sensor or the second energy detector is missing in the examiner's analysis. Moreover, the amended claim further requires that the second energy source and the second energy detector are structurally coupled to the pipette tip receiving element, which is clearly not the case, even if one would assume that the system 108 would be the second energy detector. Thus, and once more, critical elements of the amended claims are not taught by any one of Kureshy and Sakka.

Therefore, and at least for these reasons, amended claim 1, and claims 2-3 and 5-10 by virtue of their dependence on amended claim 1 should not be deemed obvious over Kureshy in view of Sakka.

With further respect to **claim 2**, the examiner asserts that Kureshy would teach that the first energy source comprises a laser, and that the first energy is provided to the volume via a light guide. The examiner refers in support of his position to column 7, lines 31-33, reading: "...The invention automatically corrects for these variations in tip location by sensing the

location of the orifices 140 of the tip 70 by means of the light beam 114..." It is entirely unclear to the applicant how the office's position would be supported by that passage. Clarification is requested or the rejection should be withdrawn.

With further respect to **claim 3**, the examiner asserts that Kureshy would teach that accurate aspiration would be calculated from a reflected light signal that is detected by the first energy detector. The examiner refers in support of his position to element 128 of Figure 2 [which is the suction control] and Figure 7 [depicting a graph correlating time and tip location]. It is again entirely unclear to the applicant how the office's position would be supported by the Figures. In contrast, the specification of the '871 patent clearly teaches that microprocessor 62 commands control unit to apply vacuum for inducting liquid in response to a signal from the optical detection system (e.g., column 5, line 38- column 6, line 37). There is absolutely no teaching of a calculation of an appropriate volume, let alone a calculation of a volume as a function of the reflected light signal. Additionally, as claim 3 depends on claim 2, all defects pointed out above for rejection of claim 2 apply as well. Again, clarification is requested or the rejection should be withdrawn.

With further respect to **claim 5**, reference is made to the applicant's observations for the rejection of claim 1. The cited passage refers to optical detection system 108, which is either the sensor or the second energy source/detector. Clarification is requested or the rejection should be withdrawn.

Claim 7 was canceled and the rejection is therefore moot.

With further respect to amended **claim 8**, it is noted that the claim as amended requires a data transfer interface that is configured to export data from the device. Such interface is not taught by Kureshy and/or Sakka.

Similarly, with further respect to amended **claim 9**, it is noted that the claim as amended requires a data transfer interface that is configured to provide data to a person other than the operator, wherein the person is in a remote location relative to the analytic device. Once more, such interface is not taught by Kureshy and/or Sakka.

With further respect to **claim 10**, the examiner asserted that Kureshy would teach a sample station with a multiwell plate and a multi-reagent pack, wherein the pipette tip removes a fluid from at least one of the multi-well plate and the multi-reagent pack and dispenses the fluid onto the surface of the biochip. The office points to Figure 2, element 68 as the sample station and Figure 2 element 66 as the multi-reagent pack, however, failed to identify the biochip in the rejection. For a definition of the applicant's term "biochip", reference is made to page 5, lines 24 et seq. It should be readily apparent that neither Kureshy nor Sakka teach a biochip.

With respect to the ***examiner's assertion that Sakka would remedy certain defects***, the applicant notes that claims 1-10 expressly require the first energy to be delivered to and received from the volume that is enclosed by the pipette tip without passing across a wall of the tip, which is contrary to the practice of Sakka's invention (see e.g., Figures 3(a) - (d)), which critically relies on passage of light through the wall of the tip.

Additionally, the examiner seems to be of the position that Sakka would teach processor-controlled accurate aspiration of a predetermined volume using a signal from the detector. This is clearly not the case. All Sakka teaches is that the signal is used to determine contact of the tip with the fluid to be aspirated (e.g., col. 7, line 47 et seq.). There is absolutely no teaching in Sakka that the processor is configured to calculate anything, let alone to calculate a volume based on the first signal as expressly required in the present claims. This simple on/off mode is expressed by Sakka, for example, in column 10, line 37 reading "... The instrument of this example (the situation is the same in other examples) gives an advantageous effect in that the position of the lower end of the pipet tip in the liquid sample is precisely decided at the start of the liquid suction, and enables accurate quantitative sampling of a liquid..."

Regarding **claim 6**, the applicant agrees that Sakka teaches volumes of equal or less than 200 microliter.

(2) Claim 4 was rejected under 35 USC § 103 as being obvious over Kureshy in view of Sakka and further view of Laugharn (U.S. Pat. No. 6,948,843). The applicant again respectfully disagrees, especially in view of the amendments herein. As claim 4 depends on amended claim 1

(via claim 2), the same defects as pointed out above for claims 1 and 2 apply and will not be reiterated at this point.

Additionally, the applicant notes that Laugharns ultrasound device is used for fluid mixing of picoliter quantities, which is entirely inconsistent with a pipetting operation. Yes, the keyword "ultrasound transducer" is present, however, that does not render claim 4 obvious in the absence of proper reasoning. The examiner asserts in the office action that the motivation to combine would be to provide "...a way of mixing...to ensure accurate distribution...and more uniform uptake of the sample..." Such motivation is spurious at best as the claimed device has nothing to do with mixing fluids. Indeed, the claims require that the signal from the ultrasound transducer is used to control movement of the pipette tip along a z-coordinate. Thus, the office's argument is a non-sequitur and the combination is improper. The rejection should be withdrawn.

Double Patenting

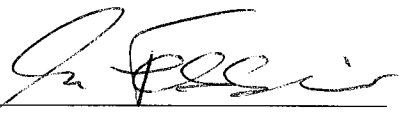
Claims 1-3 and 5-10 were rejected under the judicially created doctrine of obviousness-type double patenting over claims 6-7 of the Kureshy patent in view of Sakka and Laugharn. The applicant disagrees, especially in view of the amendments made herein. As the cited art is the same as for the prior 103 rejections, the same deficiencies as pointed out above apply and are not reiterated here. Based on the above arguments and amendments, the double patenting rejection should be withdrawn.

REQUEST FOR ALLOWANCE

Claims 1-6 and 8-20 are pending in this application, with claims 11-20 being withdrawn. The applicant requests allowance of all pending claims.

Respectfully submitted,

FISH & ASSOCIATES, PC

By 

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